De FOCOM studie: een studie naar activatie van hersengebieden tijdens het maken van opdrachten op de computer

Gepubliceerd: 10-06-2014 Laatst bijgewerkt: 18-08-2022

This study tests the hypothesis that age has an effect on prefrontal brain activity, measured by fNIRS and EEG, during a cognitive paradigm assessing proactive response inhibition and working memory. The results of the fNIRS-EEG study will be...

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON25944

Bron
NTR

Verkorte titel
FOCOM NIRS studie

Aandoening

aging - veroudering
working memory - werkgeheugen
response inhibition - respose inhibitie

Ondersteuning

Primaire sponsor: Wageningen University, division of Human Nutrition
Overige ondersteuning: European Fund for Regional Development (EFRO), the province of Gelderland and the national government

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Oxygenated (O2Hb) and deoxygenated (HHb) hemoglobin concentration changes (ìmol/L), measured during baseline and the performance of the cognitive paradigm

Toelichting onderzoek

Doel van het onderzoek

This study tests the hypothesis that age has an effect on prefrontal brain activity, measured by fNIRS and EEG, during a cognitive paradigm assessing proactive response inhibition and working memory.

The results of the fNIRS-EEG study will be compared with the results of a fMRI study with the same cognitive paradigm

Onderzoeksopzet

1

Onderzoeksproduct en/of interventie

We will measure cerebral blood flow (with fNIRS) at the prefrontal cortex, and electrical activity (with EEG) at the scalp in young and elderly healthy subjects, during the performance of a working memory task and a response inhibition task. The study has a cross-sectional design and no intervention is applied.

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Males and females aged 18-35 years (young adults group)

- Males and females aged 60-75 years (older adults group)

- Right-handed

- Dutch speaking

- Good health (see exclusion criteria)

- Non-smoking (max. 1 cigarette per day)

- Normal or corrected-to-normal vision

- Signed informed consent available

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Mini-Mental State Examination (MMSE) score ¡Ü 26 (older subjects group)

- Estimated IQ < 85 (based on Nederlandse Leestest voor Volwassenen [NLV]-score)

- Colour blindness

- Current or past psychiatric disorder, such as psychosis or major depression.

- Current or past neurological disorder, such as severe cerebral vascular disease (e.g. cortical

stroke, subarachnoid hemorrhage), Parkinson¡¯s disease, epilepsy, traumatic brain injury, central nervous system infection, brain tumor, and alcoholic encephalopathy

- Current or past severe systemic disease such as coronary artery disease, myocardial infarction <6 months, heart failure (unstable), chronic obstructive pulmonary disease (unstable)

- Type 1 or type 2 diabetes mellitus

- Previous head surgery

- Excessive alcohol use (on average >3 consumptions per day)

- Recurrent migraine

- General medical conditions, such as repetitive strain injury (RSI), which may confound the results of the study, as judged by the investigator

- Use of psychopharmacological drugs (anxiolytics, antidepressants, antipsychotic drug, long-acting benzodiazepines etc.)

- Use of cardiovascular drugs (including antihypertensives)

- Current participation in another study or previous participation in the fMRI study of the Donders Institute of Brain, Cognition and Behaviour, Nijmegen.

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Parallel
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	01-07-2014

Aantal proefpersonen:	40
Type:	Werkelijke startdatum

Ethische beoordeling

Positief advies

Datum:	10-06-2014
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4137
NTR-old	NTR4641
Ander register	CMO Regio Arnhem-Nijmegen : 2014/029

Resultaten